DESIGN FEATURES RELATING TO CONSTRUCTION
OR TO REGULATION AND CONTROL OF TRAFFIC
MAY BE SUBJECT TO CHANGE AS DEEMED
NECESSARY BY THE DEPARTMENT

DERAL AID	CTATE	
JE:E :::18	STATE	SHEET NO.
PRO JECT ROI	TE PROJECT	SHEET INU.
		15(1)
	TE PROJECT	

IN PROGRESS 10/22/08 NOT FOR CONSTRUCTION

## QUANTITY SUMMARY

TRAFFIC SIGNALS

		(1)(19)(2)(2)		(3) (4)	6 7 8	(12)						(13)	(10)		(21) (22)										(11)		(18)	(11)						(15)		(18)	
						poe		3'	17.	3.				Ju	ınction l	Зох								c				Cor	nductor	Cable				Condui	t		
	INTERSECTION	Install Controller	Concrete Foundatic CF-3	Electrical Service SE-5	Traffic Signal Head 12" LED	Pedestrian Signal He SP-9	Concrete Foundatio PF-2 PedestalPole	Strain Pole MP-2, 3	Strain Pole MP-2, 1	Strain Pole MP-2, 3 Luminaire Arm, 15'	Span Wire	Pedestal Pole PF-2, 12'	Test Bore	JB-2C	JB-3C	JB-5C	Hanger Assembly SMB-1, One-Way	Hanger Assembly SMB-3, One-Way	Hanger Assembly SW-2, One-Way	Hanger Assembly SM-3, One-Way	Install Sign SMD-2	Install Sign SMD-1	Sign Panel	Microwave Detectio Installation	Saw Cut	Trench Excavation ECI-1	Sirectional Boring	14/1 Enclosed	14/2	14/7	14/2 Shielded	1" Metal	11/4" Metal	3	4	4" Bored	Tether Wire, 1/4"
SHEET NO.	UNIT	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	LF	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	S.F.	LS.	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
15(2)	RTE 7 AND RTE 607	1	1	1	36	8	4	2	2	2	390	6	4	1	23	1	2	8	12			4	28	2	930	740	300	2400	3000	4100	4600	200	15	630	40	300	390
15(3)	RTE 7 AND LEXINGTON DR				4	2	1					1			1			2		1	2		15		630	25	130	1700	800	1280	1710	60		10		130	
	TOTAL	1	1	1	40	10	5	2	2	2	390	7	4	1	24	1	2	10	12	1	2	4	43	2	1560	765	430	4100	3800	5380	6310	260	15	640	40	430	390

NOT A PAY ITEM

PROPOSED		EXISTING
•	Metal Pole	©
•	Wood Pole	0
•	Concrete Pole	Ф
•	Mast Arm Metal Signal Pole	•
	Wood Pole w/Metal Mast Arm	
	Combination Luminaire - Signal Metal Pole	① •
① + <b>***</b>	Combination Luminaire - Signal Wood Pole	
• * • • • • • • • • • • • • • • • • • •	Combination Luminaire - Signal Concrete Pole	ŷ <u>¤</u> ○ Ø Ŷ <u>¤</u> 0
	One Way Signal Head	
• • • • • • • • • • • • • • • • • • •	Two Way Signal Head	<b>⊶</b> ① ②
(1) (3)	Three Way Signal Head	(1) (3)
$4 - \frac{1}{3}$	Four Way Signal Head	4 - O
<b>●→</b> ①	One Way Bracket Mounted Signal - Metal Pole	©o(1)
<b>●</b> ①	Two Way Bracket Mounted Signal - Metal Pole	© <b>;</b> →① ②
<b>●</b> • • • • • • • • • • • • • • • • • • •	One Way Bracket Mounted Signal - Wood Pole	$\bigcirc \!$
	Two Way Bracket Mounted Signal - Wood Pole	<b>○</b>
<b>→</b> ①	One Way Bracket Mounted Signal – Concrete Pole	$\bigcirc$
<b>1</b>	Two Way Bracket Mounted Signal - Concrete Pole	<b>₽</b>
<b>I</b>	One Way Pedestal Top Mounted Signal - Metal Pole	
<b>1</b> -2	Two Way Pedestal Top Mounted Signal - Metal Pole	①
	One Way Pedestal Top Mounted Signal - Concrete Pole	①•——[[]
<b>1</b>	Two Way Pedestal Top Mounted Signal - Concrete Pole	
C	Base Mounted Local Control Cabinet	[C]
MC	Base Mounted System Master Cabinet	[MC]
	Bracket Mounted (S. O. P.) Control Cabinet Metal Pole	
	Bracket Mounted (S. O. P.) Control Cabinet Wood Pole	
	Bracket Mounted (S. O. P.) Control Cabinet Concrete Pole	

PROPOSED		EXISTING
	Pedestal Pole - Metal	
	Pedestal Pole - Concrete	
	Metal Pedestal Mount; Control Cabinet	[C [O]
	Concrete Pedestal Mount; Control Cabinet	
J	Junction Box	ŊJ
M	Man Hole	
Н	Hand Hole	
	Loop Detector	
	Quadrupole Loop Detector	EEEB
S	Service Disconnect Switch Box	\$
M	Meter Box	M
	Span Wire	
***	Span Wire w/Cable	
===	Conduit Only	======
===	Conduit w/Cable	====
===	Existing Conduit w/ Proposed Cable	
$\prec$	Guy Wire	
——● P.B.	Pedestrian Push Button	——Ор.в.
<b>●</b> P.B.	Pedestrian Push Button On Metal Pole	O P.B.
•	Magnetic Detector - Multi Lane	[9]
	Magnetic Detector - Single Lane	O
•	Magnetometer Detector Probes	
•	Emergency Preemptor Sensor	$\Diamond$
	Wood Utility Pole w/Overhead Wires	
	Concrete Utility Pole w/Overhead Wires	<u> </u>
	Direct Burial Cable (Signal)	

A. POLES AND FOUNDATIONS

1. NEW SIGNAL POLES (SHEET 15(2)) SHALL BE STD MP-2, WITH A SHAFT LENGTH OF 33'.

- (10) 2. PEDESTAL POLE (PF-2) SHALL BE 12 FT.IN HEIGHT.
- (13) 3. ALL BREAKAWAY POLES SHALL HAVE BREAKAWAY FUSES.

B. CONTROLLERS AND FOUNDATION

- I. CONTROLLER CABINET FOUNDATION SHALL BE ST'D.CF-3 TO INCLUDE TWO 4" CONDUITS, A SPARE 3" CONDUIT AND I-I/4" CONDUIT TIED IN TO THE JB-5.
- 2. THE CONTRACTOR SHALL PROVIDE, INSTALL AND ADJUST CONTROLLER TIMINGS TO PROVIDE AN ORDERLY FLOW OF TRAFFIC OR AS DIRECTED BY THE VDOT STSS ENGINEER.
- (2) 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING COMMUNICATION TO THE CONTROLLER AT ALL TIMES.THE CONTRACTOR IS RESPONSIBLE FOR ANY COSTS RELATED TO PROVIDING COMMUNICATION TO THE TRAFFIC SIGNAL.CONTACT VDOT NROIC SECTION: DONALD BAILEY,703-383-2713 FOR ANY RELATED COMMUNICATION ISSUES.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING POWER TO THE CONTROLLER AT ALL TIMES.THE CONTRACTOR IS RESPONSIBLE FOR ANY COSTS RELATED TO PROVIDING POWER TO THE TRAFFIC SIGNAL.
- (20) 5. ALL RIGHT TURN OVERLAPS SHALL BE WIRED TO THE OVERLAP LOAD-SWITCH POSITION.
- C. TRAFFIC SIGNAL HEADS

  (6) I. TRAFFIC SIGNAL HEAD SECTIONS SHALL BE CAST ALUMINUM.
- 8 2. ALL SIGNAL HEADS SHALL HAVE POLYCARBONATE BACKPLATES. BACKPLATE HARDWARE SHALL BE STAINLESS STEEL.
- 3 PEDESTRIAN SIGNAL HEAD SECTIONS SHALL BE CAST ALUMINUM.
- $\langle 14 \rangle$  4. PEDESTRIAN SIGNAL HEADS SHALL BE IN ACCORDANCE OF WITH ST'D.SP-9.
- (12) 5. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED IN ACCORDANCE WITH ST'D.SMB-3 (ONE-WAY).
- 6. PEDESTAL POLE HEADS SHALL BE MOUNTED IN ACCORDANCE WITH ST'D.SMB-2.
- 7. HANGER ASSEMBLY BRACKETS FOR ANGLED TRAFFIC SIGNAL HEADS SHALL BE SUCH THAT BACK PLATES CAN BE INSTALLED WITHOUT ALTERATION OR MODIFICATION.
- (7) 8. ALL TRAFFIC SIGNAL HEADS SHALL BE LED TYPE PER VDOT'S NORTHERN VIRGINIA DISTRICT SPECIFICATION.

## D. DETECTORS

- I. 6'X 40' LOOP DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH ST'D.TD-IC AND SHALL BE PLACED 5' IN FRONT OF THE STOP LINE.
- 2. 6' X 6' LOOP DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH ST'D.TD-IB.
- (11) 3. 14/1 ENCLOSED CONDUCTOR CABLE LEAD-IN REQUIRES %" SAW CUT.
- 4. LOOP DETECTOR AMPLIFIERS SHALL BE ONE FOR EACH LOOP EXCEPT THAT WHEN THERE ARE SETS OF 6' X 6' LOOPS ONLY THE SET FARTHEST FROM THE STOP BAR SHALL HAVE SEPARATE DETECTOR UNITS, ALL OTHER SETS SHALL BE SPLICED IN SERIES.

## E. CONDUIT, CONDUCTORS AND ELECTRICAL

- (18) (15) I. FOR INSTALLATION OF CONDUIT, NO OPEN CUT WILL BE ALLOWED IN ROADWAY SURFACE.
- 22) 2. JUNCTION BOX COVERS SHALL HAVE THE LETTERS "TRAF" CAST IN THE TOP SURFACE DEPRESSION FOR ALL TRAFFIC SIGNAL RELATED JUNCTION BOXES CONTAINING CABLE WITH LESS THAN 50 VOLTS. ALL OTHER JUNCTION BOX COVERS SHALL HAVE THE LETTERS "ELEC" CAST IN THE TOP SURFACE DEPRESSION.
- (21) 3. NO JB-IC,3C OR 5C SHALL BE INSTALLED IN PAVED SHOULDERS,SIDEWALKS OR MULTI-PURPOSE TRAILS.
- (3) 4. ELECTRICAL SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH ST'D.SE-5 AND SECTION 238.02(H) WHICH SHALL INCLUDE TWO 60 AMP BREAKERS. ALL ELECTRIC SERVICE SHALL BE METERED.
- 5. DIMENSIONS USED FOR LOCATING EQUIPMENT (SIGNAL HEAD ASSEMBLIES, SIGNS, ETC.) ON MAST ARMS ARE MEASURED TO THE CENTER OF THE SYMBOL USED TO INDICATE THAT EQUIPMENT.
- 6. ALL JUNCTION BOXES SHALL BE INSTALLED IN ACCORDANCE WITH ST'D.JB-3C,UNLESS OTHERWISE INDICATED.

## F. SIGNS AND PAVEMENT MARKINGS

- I. PAVEMENT MARKINGS SHALL BE MODIFIED TO REFLECT THE MARKINGS SHOWN ON THIS PLAN WHEN THE SIGNAL IS INSTALLED.
- 2. ANY EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE COMPLETELY ERADICATED.
- SHALL BE COMPLETELY ERADICATED.

  3. LIMITS SHOWN ON PROPOSED MARKINGS ARE APPROXIMATE AND SHALL BE MODIFIED IN THE

FIELD TO ENSURE THAT PROPOSED PAVEMENT MARKINGS CONTINUE UNTIL EXISTING

4. PEDESTRIAN SIGNS SHALL BE MUTCD RIO-3E.

PAVEMENT MARKINGS CAN BE MATCHED.

PORESS	ON	AL	ENG	, INC
			, _	

DAVID JOHN MAHONEY

							Date:	2/	01/08
DRAWN:	GAC	DESIG	NED: (	GAC	CHECKED:	PKG	File:	Shee	t: 10f3
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